

Taylor University
Pillars at Taylor University

Orphans and Vulnerable Children Student
Scholarship

Orphans and Vulnerable Children

Spring 2019

Adverse Child Experiences: An Overview with a Focus on Indiana

Meghan Burkholder

Grace Zander

Follow this and additional works at: <https://pillars.taylor.edu/ovc-student>

 Part of the [Child Psychology Commons](#), [Higher Education Commons](#), and the [Social Welfare Commons](#)

Adverse Child Experiences: An Overview with a Focus on Indiana

Meghan Burkholder and Grace Zander

Taylor University

An Overview of Adverse Child Experiences

Adverse child experiences, otherwise known as ACEs, impact the lives of too many children worldwide. Not only are kids deprived of a happy and healthy childhood, but they are left with consequences that last a lifetime. The purpose of this paper is to explore the impact that ACEs have on children specifically in Indiana, but first it is essential to fully define the term and to understand exactly how children's health is affected. It is also important to then discuss the prevalence of ACEs on a national level in order to provide context for understanding the extent to which ACE's effect children in Indiana.

According to the Center for Disease Control (CDC), the term adverse child experiences is used to describe "all types of abuse, neglect, and other potentially traumatic experiences that occur to people under the age of 18" (CDC). The term gained recognition in 1998 when a large study was published which revealed the strong link between ACEs and a multitude of negative health outcomes. This study was conducted by the American health maintenance organization Kaiser Permanente and the CDC and consisted of 9,508 participants. Through a questionnaire, the researchers studied seven aspects of childhood adversity- psychological, physical, or sexual abuse; violence against mother; or living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned. The results of the questionnaire were then compared to each participant's measure of adult risk behavior, health status, and disease. From these methods, the study showed that "the seven categories of adverse childhood experiences were strongly interrelated and persons with multiple categories of adverse childhood experiences were strongly interrelated and persons with multiple categories of childhood exposure were likely to have multiple health risk factors later life" ("CDC-Kaiser ACE Study", 2019). The profound results of this study revealed how not only do ACE's cause trauma to a child in their youth but

can also cause a wide range of issues that impact their entire life. According to the research organization Child Trends, some studies have shown that there is a higher risk of negative physical or mental health outcomes if an individual experiences four or more adverse child experiences. Additionally, the prevalence of most ACEs increases in older children. This would be expected because as a child grows older, they have the potential to be exposed to a greater number of hardships. The only ACE that has been found to not increase by age is economic hardship (Sacks, Murphey, & Moore, 2014).

The Impact of Adverse Child Experiences on Health and Well-Being

After the definition of adverse child experiences became more accepted among researchers, studies were conducted to figure out how exactly ACE's can have such a grand impact on a person's health. ACEs are the best predictor of poor health and the second-best predictor of academic failure ("Indiana Child Well-Being Data", 2015). In her book *The Deepest Well: Healing the Long-Term Effects of Childhood Adversity*, Nadine Burke Harris describes a potential explanation known as toxic stress. Harris introduces this topic by explaining a study conducted in 2009, analyzing the effects of ACEs on the functioning of the body's stress-response system. This was done through the analyses of children's cortisol levels, some of which had been maltreated and others who had not. The researchers found that someone who is exposed to high, continuous stress at an early age can lose the ability to return to normal cortisol levels. The term used to describe this phenomenon is disruption of feedback inhibition. As defined by Merriam Webster, feedback inhibition is the "inhibition of an enzyme controlling an early stage of a series of biochemical reactions by the end product when it reaches a critical concentration" ("Feedback Inhibition", n.d). For children who experience adversity, the inability for their bodies to regulate cortisol levels is the suspected cause of later health issues. Harris summarizes this

concept exceptionally well when she writes, “Toxic stress response can occur when a child experiences strong, frequent, and/or prolonged adversity [...] without adequate adult support. This kind of prolonged activation of the stress-response systems can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years” (Harris, 55).

In addition to toxic stress, Harris discusses another factor that has shown evidence to negatively impact the health of children who experience adversity- epigenetics. According to the National Institute of Health, “the epigenome is made up of chemical compounds and proteins that can attach to DNA and direct such actions as turning genes on or off, controlling the production of proteins in particular cells” (“What is Epigenetics?”, 2019). The epigenome is affected by one’s own experiences and environment. This shows how the experience of toxic stress can even impact a person on the molecular level. The implications of this are important to consider in children who experience adversity because when a response to stress is altered at a molecular level, these changes will carry on throughout one’s entire life. The process of epigenetic regulation helps explain why stress response can determine a child’s future health. Epigenetic regulation means that the body will turn certain genes on or off when attempting to adapt to stressful experiences, particularly genes that regulate the response to stressful events in the future (Harris, 83).

However, not all children who experience adversity are necessarily destined to a future of poor health. Having a trusted, loving adult in child’s life has proven to benefit both the child’s mental and physical health. In *The Deepest Well*, Harris expands on this concept through the explanation of a study conducted by Dr. Michael Meaney and colleagues at McGill University. The study looked at whether a rat mother’s rate of licking their pups impacted the pup’s levels of

stress hormones. Some mothers displayed high levels of licking and grooming behavior while others exhibited lower levels. Through this observation, the researchers found that the pups who received higher rates of licking and grooming had lower levels of stress hormones. Pups who received less affection not only had higher levels of stress hormones when placed in restraints for twenty minutes, but they even had more difficulty shutting off their stress response compared to the other pups. The study concluded that licking and grooming behavior occurring within the first ten days of life had an effect on the pup's stress response that lasted for an entire lifetime. Additionally, "the changes continued into the next generation, because female pups who had high-licker moms became high-lickers themselves when they had their own kids" (Harris, 81). These results imply that even in other species besides humans, a child's exposure to comfort, or lack thereof, could have monumental impacts on stress levels and ultimately health outcomes. This concept has been replicated in other sources, adding to its credibility. For example, research relayed through the Indiana Youth Institute claims that "positive childhood experiences can mitigate the stressful or traumatic events" and caring adults play a vital role in assisting children to build long-term resilience (Silverman, 2018). Understanding how the negative consequences of ACEs can be improved or avoided is extremely important when creating methods to combat the effects of child adversity.

Adverse Child Experiences in the United States

Now that the definition and consequences of adverse child experiences are well understood, it is now useful to explore how ACEs effect children throughout the United States. Dr. Robert Block, former President of the American Academy of Pediatrics, stated that "adverse child experiences are the single greatest unaddressed public health threat facing the United States today" ("Who Needs to Pay Attention to the ACE Study", 2015). This statement is supported by

other national leaders in health care, public health and child development. There is a great deal of research regarding the prevalence of ACEs in the United States. The use of statistics is a helpful way to measure how pervasive ACEs truly are on a national level. A research brief published in 2014 by Child Trends reports that 46% of children in the U.S have experienced at least one ACE and 22.6% have experienced two or more. There is only a slight majority of children who have not experienced any ACEs. In fact, sixteen states report over half of children as having experienced at least one ACE. Connecticut and New Jersey are among the states with the lowest prevalence rates, while Oklahoma consistently reports high prevalence (Sacks, Murphey & Moore, 2014). The national statistics have remained fairly constant over the years. For example, the 2016 National Survey of Children's Health (NSCH) reported that nearly half of all US children had experienced at least one ACE, that is 34 million children aged 0-17 (Bethell, Davis, Gombojav, Stumbo & Powers, 2017). Almost identical rates exist even two years after the 2014 research brief mentioned above. Therefore, adverse childhood experiences pose a threat to all children nationwide and the future health of children in the United States is at risk.

While childhood adversity is a threat to every child, there are certain sociodemographic characteristics that put some groups at a higher risk than others. One of the characteristics that impacts a child's risk for experiencing adversity is race or ethnicity. Research published by Child and Adolescent Health Measurement Initiative (CAHMI) reports that the prevalence of ACEs are disproportionately lower for White and Non-Hispanic children, and are lowest for Asian children. Black children represent the group with the highest prevalence of ACEs with over 6 out of 10 reporting adverse experiences, representing 17.4% of all children in the United States with ACEs (Bethell, Davis, Gombojav, Stumbo & Powers, 2017). Another sociodemographic characteristic that impacts the prevalence of childhood adversity is household income. A study

published in the *Journal of the American Medical Association* studied adults who reported adverse childhood experiences and found that these adults were more likely to have an annual income of less than \$15,000. This study also analyzed other sociodemographic characteristics and discovered that the adults who reported ACEs were also more likely to have less than a high school education, be unemployed, and/or identify as gay or lesbian (Merrick, Ford, Ports & Guinn, 2018). Not only is it important to consider which groups are affected most, but it also must be noted which specific ACEs are most common among children in the United States. The research organization Child Trends reports that “economic hardship is the most common adverse childhood experience reported nationally and in almost all states, followed by divorce or separation of a parent or guardian” (Sacks, Murphey & Moore, 2014). Economic hardship has a prevalence rate of 26% among children in the US ages 0-17, followed by a 20% prevalence rate for divorce or separation. The next most common ACE in the US is abuse of alcohol which has a prevalence rate of 11%. This is followed by a tie between exposure to neighborhood violence and the occurrence of mental illness, each with a prevalence rate of 9% (Sacks, Murphey & Moore, 2014). The issue of childhood adversity throughout the United States is a cause for concern and can be understood even further through the analysis of individual states.

Adverse Child Experiences in Indiana

With the information regarding adversity in children throughout the United States, this can be compared to adversity specifically in Indiana to better understand the scope of impact on the state. The state of Indiana is ranked number 31 out of the 50 states for highest number of ACEs, according to the United Health Foundation (“America’s Health Ranking”, 2018). The rate of children who have experienced at least one ACE in Indiana is 47.3%, which is similar to the national rate of 46%. The same can be said for children who have experienced two or more

ACEs, with the Indiana rate being 24.2% compared to the national rate of 22.6% (Silverman, 2018). While these values are comparable, Indiana's rates do exceed the national level. Indiana also has a higher prevalence of children experiencing at least one ACE than half of its neighboring states. Additionally, the National Survey of Children's Health reports that "Hoosier youth have a higher prevalence than their peers in eight out of nine ACEs" (Silverman, 2018). It is clear through these statistics that adversity has unfortunately affected many children in Indiana.

The top three most common ACEs in Indiana are the same as they are at the national level- economic hardship, divorce or separation, and abuse of alcohol. However, the prevalence rate of each are different for Indiana, with a rate of 28%, 24%, and 13% respectively. Recall that the fourth most common ACE for the US is a tie between violence and mental illness. There is also a tie when looking specifically at Indiana, but it is instead between violence and incarceration. The prevalence rates for both violence and incarceration in Indiana are 11% (Sacks, Murphey & Moore, 2014). In a questionnaire conducted by the Indiana Youth Survey, children in Indiana were asked about parental/guardian incarceration in addition to other home life questions. According to the results from the questionnaire, "The 2016 estimates for parental incarceration range from 19% (12th grade students) to 24.4% (8th grade students)" ("Their Impact on Substance Misuse and Overall Health", 2018). In other words, 19% of 12th grade students and 24.4% of 8th grade students in Indiana reported that one or more parent/guardian has been or is incarcerated. These values are shocking and add to the notion that ACEs are numerous and problematic in the state of Indiana.

Not only is childhood adversity linked to a variety of long-term health issues, it also has been noted as a risk factor for youth suicide. Youth who have experienced trauma are at a higher

risk for suicide, which has become a major issue in Indiana. According to a data brief released by the Indiana Youth Institute, “Hoosier youth are significantly more likely to consider or attempt suicide than their peers nationally. Indiana faces significant disparities in youth suicide among vulnerable groups” (“Youth Suicide in Indiana”, 2018). Among its neighboring states, Indiana has the highest percentage of both students who seriously considered attempting suicide and students who made a suicide plan. In fact, “Indiana ranks 2nd out of 34 states in the percentage of students who made a suicide plan and ranks 3rd out of 37 states in the percentage of students who seriously considered attempting suicide.” The number of students who seriously considered suicide even increased from 18% in 2005 to 19.8% in 2015 (“Youth Suicide in Indiana”, 2018). Clearly, suicide among youth is a major problem in the state of Indiana. The role of childhood adversity and trauma must be noted when considering this issue. Taking measures to prevent ACEs is extremely important to the physical and mental health of youth in Indiana and beyond.

Concluding Remarks

Looking at the prevalence of adverse childhood experiences in Indiana, it is clear that measures must be taken to combat this issue. According to IUPUI Center for Health Policy, “ACEs warrant attention and intervention from policymakers, social workers, and healthcare because of the diverse social, health, and economic impacts” (“Their Impact on Substance Misuse and Overall Health”, 2018). By appropriately addressing childhood adversity, health outcomes can be improved, and resilience can be strengthened in children who experiences ACEs. One way to appropriately address ACEs is through practicing trauma informed care in the health sector. The American Academy of Pediatrics (AAP) endorses the evaluation of familial and household conditions during children’s clinical visits (“Their Impact on Substance Misuse and Overall Health”, 2018). However, the AAP endorsement is not enough to combat the issue.

A survey of pediatricians conducted in 2013, 15 years after the original ACE study was published, found that nearly 90% of pediatricians were generally unfamiliar with the ACE study. Additionally, the survey found that only 4% of pediatricians regularly ask their patients about ACE's and 32% never ask about any ("Their Impact on Substance Misuse and Overall Health", 2018). These findings clearly show that those impacted by childhood adversity are being neglected, and more should be done to resolve and understand the issue. By recognizing the long-term health consequences of adverse childhood experiences and understanding the prevalence of such experiences on both a national and state level, more effective methods can be taken to decrease the negative impact ACEs have on society's youth. While some adversity may be inevitable, the way in which the health sector and community supports children with ACEs has monumental effects on youth resilience, and therefore influences the overall well-being of children.

References

- Adverse Childhood Experiences and Their Impact on Substance Misuse and Overall Health (pp. 1-10, Rep.). (2018). Indianapolis, IN: Center for Health Policy at Indiana University.
- America's Health Rankings. (2018). Retrieved May 11, 2019, from <https://www.americashealthrankings.org/explore/health-of-women-and-children/measure/ACEs/state/IN>
- Bethell, CD, Davis, MB, Gombojav, N, Stumbo, S, Powers, K. Issue Brief: Adverse Childhood Experiences Among US Children, Child and Adolescent Health Measurement Initiative, Johns Hopkins Bloomberg School of Public Health, October 2017: cahmi.org/projects/adverse-childhood-experiences-aces
- CDC-Kaiser ACE Study. (2019, April 2). Retrieved May 11, 2019, from <https://www.cdc.gov/violenceprevention/childabuseandneglect/cestudy/about.html>
- Feedback Inhibition. (n.d.). Retrieved May 11, 2019, from [https://www.merriam-webster.com/dictionary/feedback inhibition](https://www.merriam-webster.com/dictionary/feedback%20inhibition)

- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., . . . Marks, J. S. (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. *American Journal of Preventive Medicine*, 14(4), 245-258. doi:10.1016/s0749-3797(98)00017-8
- Harris, N. B., M.D. (2018). *The Deepest Well: Healing the Long-Term Effects of Childhood Adversity*. New York, NY: Houghton Mifflin Harcourt.
- Indiana Child Well-Being Data: The Case for Promoting School Mental Health (Rep.). (2015). Retrieved May 11, 2019, from Indiana School Mental Health Initiative website: <https://lookupindiana.org/wp-content/uploads/2018/01/Why-Document-IUv2-003web.pdf>
- Merrick, Ford, Ports, & Guinn. (2018). Prevalence of Adverse Childhood Experiences in the US. *Journal of American Medical Association Pediatrics*. Retrieved May 11, 2019, from <https://www.practiceupdate.com/content/prevalence-of-adverse-childhood-experiences-in-the-us/73638>
- Sacks, V., M.P.P., Murphey, D., Ph.D., & Moore, K., Ph.D. (2014). *Adverse Child Experiences: National and State- Level Prevalence* (pp. 1-11, Issue brief No. 2014-28). Bethesda, MD: Child Trends.
- Silverman, T. (2018, November 12). Childhood Experiences Shape Our Futures- For Better and Worse. Retrieved May 11, 2019, from <https://www.iyi.org/adverse-childhood-experiences/>
- What is Epigenetics? - Genetics Home Reference - NIH. (2019, April 30). Retrieved May 11, 2019, from <https://ghr.nlm.nih.gov/primer/howgeneswork/epigenome>
- Who Needs to Pay Attention to the ACE Study. (2015, March 5). Retrieved May 11, 2019, from <https://georgetownta.wordpress.com/2015/03/05/who-needs-to-pay-attention-to-the-ace-study/>

Youth Suicide in Indiana (Issue brief). (2018, July). Retrieved May 11, 2019, from Indiana Youth Institute website: <https://s3.amazonaws.com/iyi-website/issue-briefs/Physical-Health-and-Safety/IYI-Data-Brief-July-2018-Youth-Suicide.pdf>